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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application Of: Frustaci et al.

For: Device And Method For Uniformly Distributing Electrode Particles

the specification of which is being transmitted herewith

Assistant Commissioner of Patents
Washington, D.C. 20231

**INFORMATION DISCLOSURE STATEMENT
Pursuant to 37 CFR 1.56**

1. Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56.

The filing of this Information Disclosure Statement (IDS) shall not be construed as a representation that a search has been made (37 CFR 1.56(g)), an admission that the information cited is, or is considered to be material to patentability or that no other material information exists.

The filing of this IDS shall not be construed as an admission against interest in any manner (Notice of Jan. 9, 1992, 1135 O.G. 13-25, at 25).

2. Attached is Form PTO-1449. Legible copies of all items listed accompany this IDS.

IDS For: Device And Method For Uniformly Distributing
Electrode Particles
Inventor: Frustaci et al.

3. A concise explanation of the possible relevance of the listed information items is as follows:

Patents:

U.S. Patent No. 4,915,898 to Wolff et al. relates to a method for the continuous fabrication of comminuted hydrogen storage alloy material negative electrodes for rechargeable electrochemical cells. Particulate metal hydride electrochemical material is directed through a high-speed impact mill whereafter it is transported to a classifying means in a stream of substantially non-reactive gas. Thereafter, the powder material is transported to a mesh-classifying screen 74 and then onto a vibrating chute assembly 333 that deposits measured amounts of the active material powder at the loading lip 339 of a lower mill assembly. The vibrating chute assembly is particularly shown in Fig. 4 as including a plurality of material dividers that distribute the trail of active electrode material in an even, uniform manner. The divider means typically takes the form of a plurality of triangular separators 437 ordered in a descending cascade array. Material first passes through these triangles before being transported to a second material divider means having the form of a plurality of transversely extending grooves 438 (misnumbered 435 in Fig. 4). The grooves assure lateral distribution of active material prior to depositing it in the loading lip region of a chute assembly 633. The chute assembly deposits the active material powder directly upon the current collector substrate 340 where it is compacted by a series of compaction roller mills as an electrode web.

U.S. Patent No. 4,933,141 to Mankins et al. relates to a technique for fabricating clad products using powder as an

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intermediate. Wrought or cast material is used as both a core and a sleeve. The annular space between the core and the sleeve is filled with a small quantity of powder that is consolidated during extrusion. Titanium sponge serving as an oxygen getter may be introduced into the annulus before the powder is fed into it through a funnel.

U.S. Patent No. 5,073,405 to Vasilow et al. shows a method for depositing a tapered electrode on a ceramic support tube having a porous wall that may be closed at one or both ends. The support tube is internally masked near the open-end space after which air is evacuated from inside the tube. A liquid dispersing of solid electrode material particles is applied to the outside surface of the evacuated tube. This causes liquid to flow through the support tube wall resulting in a uniform deposition of material on the tube exterior.

U.S. Patent No. 6,432,292 to Pinto et al. teaches a method for electrode depositing metal on electrically conducting particles using an electrolyzer, for example electrode-depositing zinc onto zinc cut wire particles. The apparatus includes a hopper for particulate material dropped onto a cathode support having an upper surface with at least one dimension inclined at an angle relative to horizontal sufficient to allow gravitational forces to cause a bed of the electrically conductive particles to flow at a substantially uniform density and flow rate down the upper surface. The flowing bed of particles comprises the cathode and is spaced from an anode a distance sufficiently small to minimize resistance to ionic current flow between the anode and the cathode particles.

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4. The person making this statement is the agent who signs below, who makes this statement on the information supplied by the inventors and the information in the agent's file.

Respectfully submitted;

By: 
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.